

**IN THE UNITED STATES DISTRICT COURT  
FOR THE EASTERN DISTRICT OF TEXAS  
MARSHALL DIVISION**

**SWITCH, LTD.,**

**Plaintiff,**

**V.**

**ALIGNED DATA CENTERS LLC and  
MTECHNOLOGY INC.**

## Defendants.

[illegible]

**Civil Action No. 2:17-cv-00574**

## JURY TRIAL DEMANDED

## **PLAINTIFF'S COMPLAINT FOR PATENT INFRINGEMENT**

1. Switch, Ltd. (“Switch”) is a global technology solutions corporation whose core business is the design, construction, and operation of data centers: the infrastructure that powers the internet. With its innovative, patented technology—technology that provides innovative cooling, resiliency, and efficiency for data centers—Switch has emerged as an industry leader. Aligned Data Centers LLC (“Aligned”) has begun using Switch’s technology to attempt to compete with Switch. Switch brings this action to bring an end to Aligned’s infringement of Switch’s patents.
2. Switch also brings this action to hold MTechnology Inc. (“MTechnology”) accountable for its role in inducing Aligned’s infringement. Mr. Stephen Fairfax, as President of MTechnology, was given wide access to assess Switch’s data center facilities in 2011 and in early 2015. Switch maintains military-grade security and only granted access to Mr. Fairfax at the request of a Switch customer. Mr. Fairfax agreed to keep the information in strict confidence and signed several confidentiality agreements.

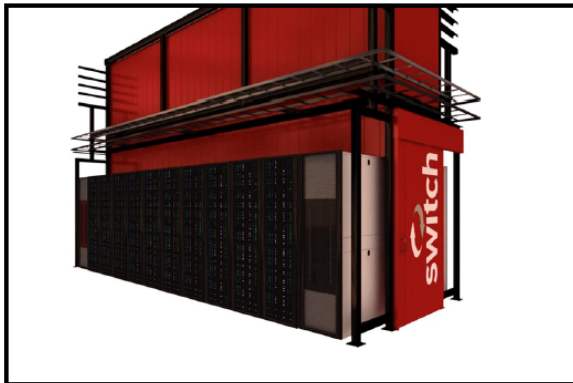
3. In 2011, under a confidentiality agreement, Mr. Fairfax then toured and inspected Switch's facility and spent hours conversing with Mr. Rob Roy—Switch's founder, inventor and CEO—regarding Switch's technology, designs, and business model. Mr. Fairfax praised Switch as uniquely innovative.
4. Despite his assurances and obligations to maintain what he learned from Switch and Mr. Roy in confidence, Mr. Fairfax unlawfully abused Switch's trust and violated his confidentiality agreements.
5. In as early as 2013, without Switch's knowledge or consent, Aligned hired Mr. Fairfax to begin designing data centers. The technology deployed in these facilities mimics—if not mirrors—Switch's technology.
6. Aligned has publicly promoted Mr. Fairfax's integral involvement with a promotional video on their website, and Mr. Fairfax himself has said he was invited to develop designs for Aligned Data Centers at the "blank page stage."<sup>1</sup> Aligned and MTechnology (together, "Defendants") have also begun promoting technology invented and patented by Switch as available at Aligned Data Centers. Aligned is currently using Switch's technology to attract clients for its Arizona and Texas facilities. To promote these facilities, the Defendants are touting the same efficiency and scalability benefits that are available in Switch's data center facilities and that would be much more difficult to obtain but for use of Switch's technology. In doing so, the Defendants are unlawfully and intentionally infringing Switch's patents, unfairly forcing Switch to compete with its own technology, and causing significant, irreparable harm to Switch.

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<sup>1</sup> See <https://www.youtube.com/watch?v=KZRwktOCvdo> (last visited Aug. 6, 2017).

7. Even the untrained eye can appreciate Aligned's infringement when Switch's technology, known as the Switch T-SCIF® (a "Thermal Separate Compartment in Facility"), is viewed side-by-side with Aligned's "Customer Pod". Switch provides the following comparisons for the Court's convenience:

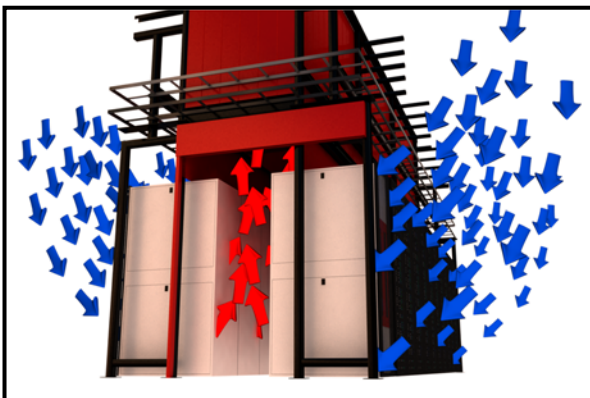
**Switch's T-SCIF**  
Side View



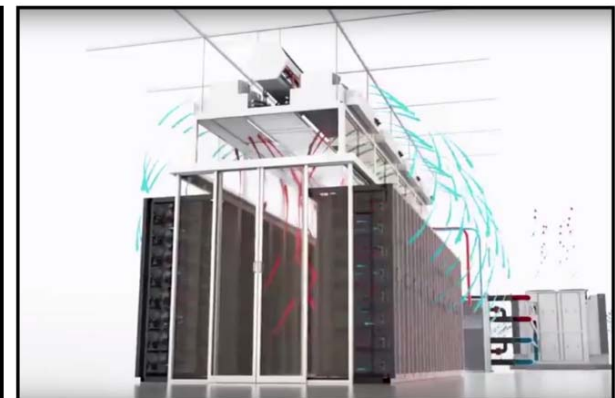
**Aligned's "Customer Pod"**  
Side View



**Switch's T-SCIF**  
Front View



**Aligned's "Customer Pod"**  
Front View



**Switch's T-SCIF**  
Top View Showing the Heat Shield



**Aligned's "Customer Pod"**  
Top View Showing the Heat Shield



**THE PARTIES**

8. Plaintiff Switch, Ltd. is a limited liability company organized and existing under the laws of the State of Nevada, and maintains its principal place of business at 7135 S. Decatur Blvd in Las Vegas, Nevada 89118.
9. Defendant Aligned Data Centers LLC is a Delaware limited liability company organized and existing under the laws of the State of Delaware. Aligned Data Centers LLC's principal place of business is located at 60 Backus Avenue, Danbury, Connecticut 06810.
10. Defendant MTechnology Inc. is a Massachusetts corporation organized and existing under the laws of the State of Massachusetts. MTechnology Inc.'s principal place of business is 2 Central St. Saxonville, Massachusetts 01701.

**JURISDICTION AND VENUE**

11. This is an action for patent infringement arising under the patent laws of the United States, 35 U.S.C. §§ 1 *et seq.* This Court has jurisdiction over this action pursuant to 28 U.S.C. §§ 1331 and 1338(a).
12. This Court has personal jurisdiction over Defendants. Aligned Data Centers LLC conducts business and has committed acts of patent infringement and has induced acts of patent infringement by others in this district.
13. Venue is proper in this district pursuant to 28 U.S.C. §§ 1391 and 1400(b) because, among other things, Aligned Data Centers LLC has committed acts of infringement in this district and has a regular and established place of business in this district. Specifically, Aligned has a large data center facility located at 2800 Summit Ave., Plano TX 75074. Thus, Aligned has a physical presence in the district. It also touts its presence in the district on, for example, its website. It receives benefits from its location in the district by, for

example, selling the use of its facility to customers. It has targeted interactions with the district by, for example, hiring employees, entering into contracts for use of its facility located in the district, and promoting the benefits of its location in the district.

14. Venue is proper in this district pursuant to 28 U.S.C. §§ 1391 and 1400(b) as to MTechnology Inc. because MTechnology has committed acts of infringement in this district as described below. Additionally, MTechnology has a regular and established place of business in the district. MTechnology, through at least its President Steve Fairfax, had a “seat at the table” in the design of Aligned Data Center’s data centers during the very beginning of the design process, including at the Plano data center location. MTechnology was physically in the district at least during the construction phase of Aligned’s Plano data center. MTechnology benefitted significantly—via either revenue, potential ownership, or otherwise—from its work in connection with the design of the Plano data center. MTechnology also benefited from its use of the data center in the district as its own marketing tool. MTechnology also has targeted interactions with the district. For example, MTechnology did a reliability study of the Plano facility. MTechnology has performed checks and likely will continue to perform periodic checks on Aligned Data Centers LLC’s facility in the district. Additionally and relatedly, given MTechnology’s continued marketing of Aligned Data Centers LLC, including their facility in the district, it is also likely that MTechnology maintains ongoing contractual relationships with at least Aligned related to its facility in the district.

#### **PATENTS-IN-SUIT**

15. On December 6, 2011, the United States Patent and Trademark Office duly and legally issued U.S. Patent No. 8,072,780 (the “780 patent”) entitled “Integrated Wiring System and Thermal Shield Support Apparatus for a Data Center,” attached as Exhibit A.

16. Switch owns all rights, title, and interest in and to the '780 patent and possesses all rights of recovery.
17. On May 15, 2012, the United States Patent and Trademark Office duly and legally issued U.S. Patent No. 8,180,495 (the "'495 patent") entitled "Air Handling Control System for a Data Center," attached as Exhibit B.
18. Switch owns all rights, title, and interest in and to the '495 patent and possesses all rights of recovery.
19. On April 11, 2017, the United States Patent and Trademark Office duly and legally issued U.S. Patent No. 9,622,389 (the "'389 patent") entitled "Electronic Equipment Data Center and Server Co-Location Facility Configurations and Method of Using the Same," attached as Exhibit C.
20. Switch owns all rights, title, and interest in and to the '389 patent and possesses all rights of recovery.

## **GENERAL ALLEGATIONS**

### **I. Switch's Innovative Technology**

21. Switch incorporates by reference the preceding paragraphs as if fully set forth herein.
22. Switch designs, constructs, and operates the physical infrastructure that cools, powers, protects and connects the internet.
23. Switch's designs have allowed Switch to become known as one of the best in the industry at building and operating data center technology ecosystems.
24. Switch has received various awards for Rob Roy's inventions, including being ranked as the World's No. 1 cloud campus by industry publication Data Center Frontier.<sup>2</sup> Switch

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<sup>2</sup> See <http://datacenterfrontier.com/top-10-cloud-campuses/>.

was ranked above Google, Amazon, Apple, Microsoft, Facebook, DuPont Fabors, Digital Realty, the NSA, and Equinix.

25. Switch's customers include Intel, Amazon, Microsoft, Disney, Sony, Fox, Machine Zone, and hundreds more. A partial list of Switch's customers is available at <http://www.switch.com/clients/>.
26. At the heart of Switch's innovative technologies are Rob Roy's inventions including, but not limited to, Switch's patented hot aisle containment technology and multi-mode cooling technologies. The heat containment technology is known in the industry as the Switch T-SCIF (the "T-SCIF Technology").
27. Computer servers necessary to power the internet consume immense amounts of power. This power consumption generates heat. The problems in efficiently and effectively dealing with this heat have been long-felt in the industry and have proven to be a limiting factor in data center operation.
28. Switch's T-SCIF Technology allows for greater efficiencies and greater computer-server density use by containing up to 100% of the heated air emitted by servers and channeling that heat directly to Switch's cooling technology systems.
29. In a traditional data center, a single server cabinet may consume 3-5 kilowatts of power. However, Switch's T-SCIF Technology permits its customers to deploy up to 50 kilowatts of power.
30. Said differently, Switch's modular technologies allow customers to consume 10 times the amount of power that may be consumed in a traditional environment without overheating their equipment or the data center. Switch's technologies have allowed Switch to fully utilize its data center floor space and has helped customers reduce their costs for data center

deployment, all while delivering maximum power delivery and steady temperature and humidity control. All of this is provided in a modular fashion.

31. Based on Switch's unique approach to data center technology, Switch has been able to operate its data centers more efficiently than its competitors and has solved one of the biggest threats to data center efficiency: containing and channeling server heat. Switch's patented and patent-pending technology allow Switch to achieve a best monthly average power usage effectiveness (an industry term often referred to as "PUE") below 1.1, a feat that is unique in the colocation data center industry.<sup>3</sup>
32. In addition to offering unique cooling efficiencies, Switch's technology has permitted Switch to provide steady cooling and power to all of its clients *without interruption* for over 15 years. Although the electric utility may lose power, Switch's designs ensure that a customer will not exceed key temperature thresholds or lose power.
33. Switch offers unique, heat containment data center services because Switch's heat containment technologies allow customers to consume more power in a given space. This in turn allows customers to reduce their overall data center floor space need and save on the overall cost of data center space.

## **II. Aligned's Unauthorized Infringement**

34. Switch recently learned of Aligned's unauthorized infringement of Switch's patented designs and technology. Upon further investigation, Switch discovered that Mr. Fairfax was instrumental in the design of the Aligned Data Centers in Plano, Texas and Phoenix, Arizona, and the associated technology, from the beginning.

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<sup>3</sup> See <https://www.switch.com/sustainability/#sustainable-by-design>.



35. On July 21, 2017, Switch sent correspondence to the CEO of Aligned Data Centers, Mr. Andrew Schaap. Switch expressed its curiosity at Aligned's data center designs and extended an invitation to dialogue and seek a business resolution. A copy of the correspondence is attached as Exhibit D.
36. Switch did not hear back from Mr. Schaap, and has yet to hear from him.
37. After further investigation, and as the facts became even more clear that Mr. Fairfax helped design Aligned's data centers, Switch sent a litigation hold letter to Mr. Fairfax and to the CTO of Aligned Data Centers, Mr. Jakob Carnemark on July 27, 2017, a copy of which is attached as Exhibit E.
38. Switch did not hear back from either Mr. Fairfax or Mr. Carnemark until it received a threatening correspondence from Aligned's outside counsel on August 2, 2017. A copy of this correspondence is attached as Exhibit F.
39. In its August 2 letter, Aligned insisted that Switch had "been communicating with potential customers and with data center brokers, including third parties in San Francisco, CA, and asserting that Aligned infringes Switch's patents" and demanded that Switch, within two days, respond to its letter and agree to issue "corrective statements."<sup>4</sup>
40. In view of Aligned's threatening letter and decision to interface via outside litigation counsel, all while faced with growing irreparable harm from Aligned's continued infringement, Switch filed the instant suit.

### **III. Aligned's Data Centers**

41. Aligned recently opened data centers in two markets, namely Plano, Texas and Phoenix, Arizona. Aligned builds their facilities in a modular fashion, like Switch, to match

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<sup>4</sup> See Exhibit F, pg. 2-3.

construction costs with customer demand. Aligned has provided an image of the anticipated build-out of its first data center, located in Plano Texas, in its online marketing materials, *see, e.g.*:

**Aligned Plano Texas Rendering**



**Plano Texas Google Earth Image**



42. However, as evidenced by the above satellite image of Aligned's Plano facility, which depicts empty dirt lots next to the facility, Aligned might not have fully constructed its Plano facility. Rather, it appears that Aligned is waiting to finish the facility while it actively pursues customers and promotes Switch's technology as its own to support the continued construction of its facilities.
43. Aligned's plans to unlawfully promote Switch's technology as its own are not isolated to its current, infringing data centers. Aligned is advertising it will eventually operate in six markets: Plano, Texas; Phoenix, Arizona; Northern California; Northern Virginia; Northern New Jersey; and Chicago, Illinois.
44. Nor is Aligned bashful in how it uses others' technology. Keith Dines, Director of Aligned Data Centers, explains on the Aligned website: "If there is new technology that will improve efficiency or lower the cost to operate our data centers, we will embrace it wholeheartedly."<sup>5</sup>

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<sup>5</sup> See <https://www.youtube.com/watch?v=fvIMKfZU9OI>.

#### **IV. Stephen Fairfax**

45. Around May 2011, Stephen Fairfax was given an in-depth tour of Switch facilities. He was also given very unique and special access to all of Switch's designs. Mr. Fairfax was permitted this unique access for a very limited purpose. Namely, he had been retained by one of Switch's clients to conduct an in-depth audit of the Switch technology to provide an independent assessment of Switch's technology. Mr. Fairfax was given access to all of Switch's designs, including extremely sensitive documentation, plans, schematics, blueprints, and operational schedules so that he might complete his review.
46. Prior to granting Mr. Fairfax access to any Switch facility or information, Mr. Fairfax was required to sign a comprehensive Non-Disclosure Agreement (the "2011 NDA"). Before being granted access to Switch's protected materials and the environment within the data center, Mr. Fairfax and MTechnology committed to keep confidential any Confidential Information (as defined in the 2011 NDA).
47. Following the tour and a thorough evaluation of Switch's technology, on May 10, 2011, Mr. Fairfax emailed Switch to express his gratitude for the tour. He specifically thanked Switch for the "very thorough tour" and the "the generous amount of time Switch's CEO spent discussing the data center, the business model, and a variety of other very interesting topics."<sup>6</sup>
48. In 2013, Switch's client again asked Mr. Fairfax to tour Switch's facility and evaluate evolutions in Switch's designs. Mr. Fairfax praised Switch by noting, "[Switch] is an interesting site, unusual architecture, especially the cooling system."<sup>7</sup>

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<sup>6</sup> See Exhibit G (email dated May 10, 2011 from Defendant Fairfax to Switch).

<sup>7</sup> See Exhibit H (email dated May 24, 2013 from Mr. Fairfax to eBay).

49. Mr. Fairfax also noted that he had previously spent “over 4 hours one-on-one with Rob Roy during my initial visit,” and he stated that “I tried then to assure [Mr. Roy] that I have no interest in building and operating data centers.” Nevertheless, Mr. Fairfax stated that a “PRA [private risk assessment] should be informative for him as well as for you, and us.”<sup>8</sup>
50. Around August 2015, again at the request of Switch’s client, Mr. Fairfax was once more granted this unique access to Switch under similar circumstances to evaluate new evolutions in Switch’s technology. Mr. Fairfax was again required to execute a Non-Disclosure Agreement (the “2015 NDA”, together with the 2011 NDA, the “Non-Disclosure Agreements”).
51. Under the confidentiality protections of the 2015 NDA, Mr. Fairfax was given the opportunity to inspect, tour, and view: (i) the physical infrastructure and layout of the Switch facility, specifically the cabinet layout and configuration known as Switch’s T-SCIF; (ii) Switch’s novel cooling designs, specifically the multi-mode exterior wall penetrating HVAC system, the cabinet layout and configuration, as well as other technology unique to Switch and necessary to cool the data center; (iii) the electrical configuration and pathways; (iv) the interplay of various Switch technology and components; and (v) the operations of the data center unique to Switch.
52. Pursuant to the Non-Disclosure Agreements, neither Defendant MTechnology nor Mr. Fairfax were permitted to disclose any confidential information learned during Mr. Fairfax’s tour and audit or to use any confidential information for their benefit or the benefit of others. Defendant MTechnology and Mr. Fairfax failed to keep their contractual commitment.

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<sup>8</sup> See Exhibit H.

**V. Relationship between Aligned Data Centers and Stephen Fairfax**

53. Around or before 2015, Stephen Fairfax was introduced to Aligned by Inertech, one of Aligned's subsidiaries. Mr. Fairfax was retained by Aligned Data Centers and asked to design its data centers. Mr. Fairfax was instrumental in the design of Aligned's data center technology. According to Mr. Fairfax, "Aligned was unique in that they approached us while the paper was literally still blank."<sup>9</sup>
54. Mr. Fairfax was involved at every stage of the design and execution of Aligned's data centers, and is, to this day, highlighted on the Aligned website as a spokesperson promoting the design of Aligned's data centers.

**VI. Aligned Data Center Design**

55. Based on the completed design of the Aligned data centers, Switch believes that Mr. Fairfax improperly encouraged Aligned to implement Switch's technology in the design and makeup of the Aligned data centers. As examples, Aligned's facilities mimic: (i) Switch's physical infrastructure, heat containment cabinet layout, and configuration; (ii) the electrical pathway configuration; (iii) the interplay of various component parts; and (iv) the operations of the data center unique to Switch.
56. It should also be noted that, similar to Switch, Aligned is now claiming a PUE of 1.15 and the ability to reach per cabinet/rack KW consumption of 50 KW. Switch believes that these PUE and per-rack KW potentials are only be possible through the use of Switch's technologies.

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<sup>9</sup> See <https://www.aligneddatacenters.com/video/steve-fairfax-mtechnology-aligned-data-centers>.

**COUNT ONE: DIRECT INFRINGEMENT BY ALIGNED DATA CENTERS LLC**

57. Aligned Data Centers LLC has made, makes, has used, uses, has sold, sells, has offered to sell, and offers to sell infringing data centers.

58. Aligned's data centers practice at least one claim of the '780 patent. An example claim, claim 1, recites:

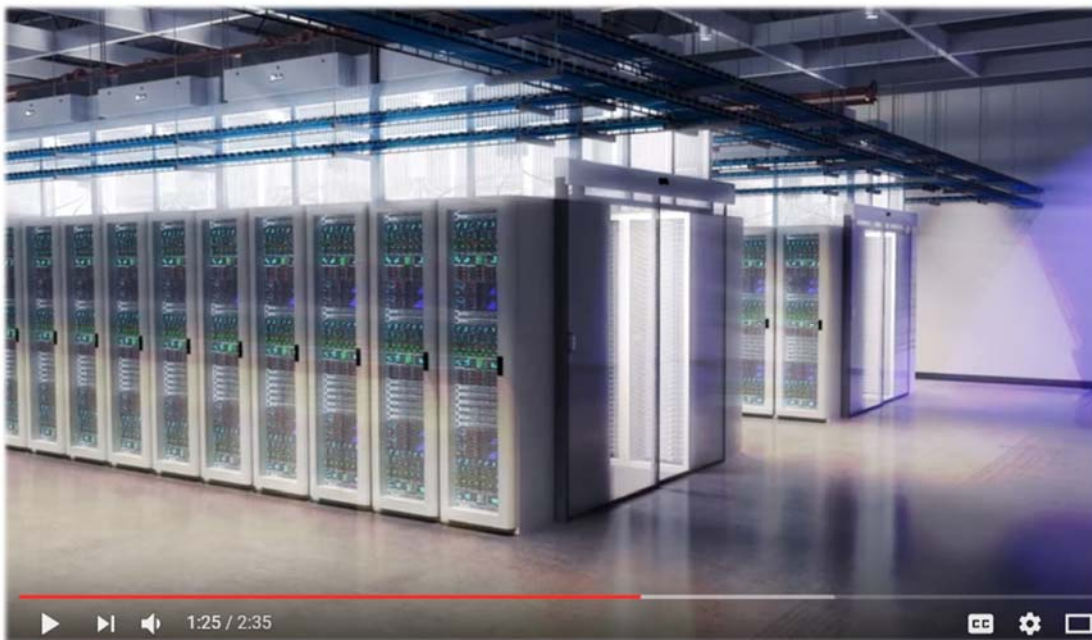
An apparatus for maintaining a configuration of electronic equipment disposed in a plurality of cabinets, for supporting a thermal shield that defines a hot air containment chamber, and supporting distribution power wires and conduits, electronic equipment power wires and conduits, and communication wiring, the plurality of cabinets disposed on a floor, the floor being within an internal area of a building, the cabinets positioned in a two rows and separated by a hot aisle area so that the electronic equipment disposed in the plurality of cabinets emit heated air in a predetermined direction toward the hot aisle area between the two rows, the apparatus comprising:

a plurality of support brackets disposed along each of the two rows that support the distribution power wires and conduits, the electronic equipment power wires and conduits, and the communication wiring on one side of the plurality of support brackets, and support the thermal shield on another side plurality of support brackets, wherein a portion of each of the support brackets is adapted for connection above the plurality of cabinets, each of the support brackets including, in the portion adapted for connection above the plurality of cabinets:

a plurality of tiered ladder rack supports on the one side to establish a plurality of different tiers outside of the hot air containment chamber, so that each of the different tiers is adapted to hold the electronic equipment power wires and conduits and the communication wiring, and

a plurality of conduit holders disposed on the one side above the plurality of tiered ladder rack supports, each of the conduit holders in each of the plurality of support brackets aligned with corresponding ones of conduit holders in the other plurality of support brackets, for holding a plurality of the distribution power wires and conduits.

59. As shown in the picture below, Aligned's data centers contain an apparatus with "support brackets," "cabinets," a "thermal shield," "tiered ladder racks supports," and "conduit holders" as claimed in the '780 patent:



Source: <https://www.youtube.com/watch?v=FrlpEbBo37c> at 1:25 (last visited Aug. 6, 2017).



Source: <https://www.youtube.com/watch?v=KCaPCc6eHpk> at 1:19 (last visited Aug. 6, 2017).

60. Aligned's data centers infringe at least one claim of the '389 patent. An example claim, claim 1, recites:

An apparatus for maintaining a configuration of electronic equipment disposed in a plurality of cabinets, for supporting a thermal shield that defines a hot air containment chamber, for supporting a thermal barrier ceiling, for supporting cool air ductwork and for supporting distribution power wires and conduits, electronic equipment power wires and conduits, and communication wiring, the plurality of cabinets disposed on a floor, the floor being within an internal area of a building, the cabinets positioned into two parallel rows that are separated by a hot aisle area so that the electronic equipment disposed in the plurality of cabinets emit heated air in a predetermined direction toward the hot aisle area between the two rows, the apparatus comprising:

an interior frame structure that is independent of and not structurally tied to the plurality of cabinets, the interior frame structure including:

a first plurality of vertical support brackets disposed only at ends of the two rows, each vertical support bracket being disposed on the floor at one end and assists in supporting the thermal barrier ceiling at another end, wherein the first plurality of vertical support brackets each further support portions of the thermal shield on one side of the first plurality of vertical support brackets at a location above a top of the plurality of cabinets, wherein the cabinets positioned in the two parallel rows are separated by the hot aisle area, and wherein a cross sectional area of the hot air containment chamber defined by the thermal shield and parallel with the floor is disposed directly above and encompasses a cross sectional area of the hot aisle area that is located between the two parallel rows of cabinets and is parallel with the floor;

a first horizontal support bracket disposed above a cabinet height that intersects a middle hot aisle portion so that an area on two opposite sides of each hot aisle where the cabinets can be placed does not have any vertical support brackets disposed therein;

a second plurality of horizontal support brackets that are each parallel with the floor, each of the second plurality of horizontal support brackets connecting together two different ones of the first plurality of vertical support brackets and connecting to each of the two different ones of the first plurality of vertical support brackets at a height that is above the cabinet height;

a plurality of tiered ladder rack supports, each connected to another side of at least some of the first plurality of vertical support brackets that is opposite the one side, which establish a plurality of different tiers outside of the hot air containment chamber, so that each of the different



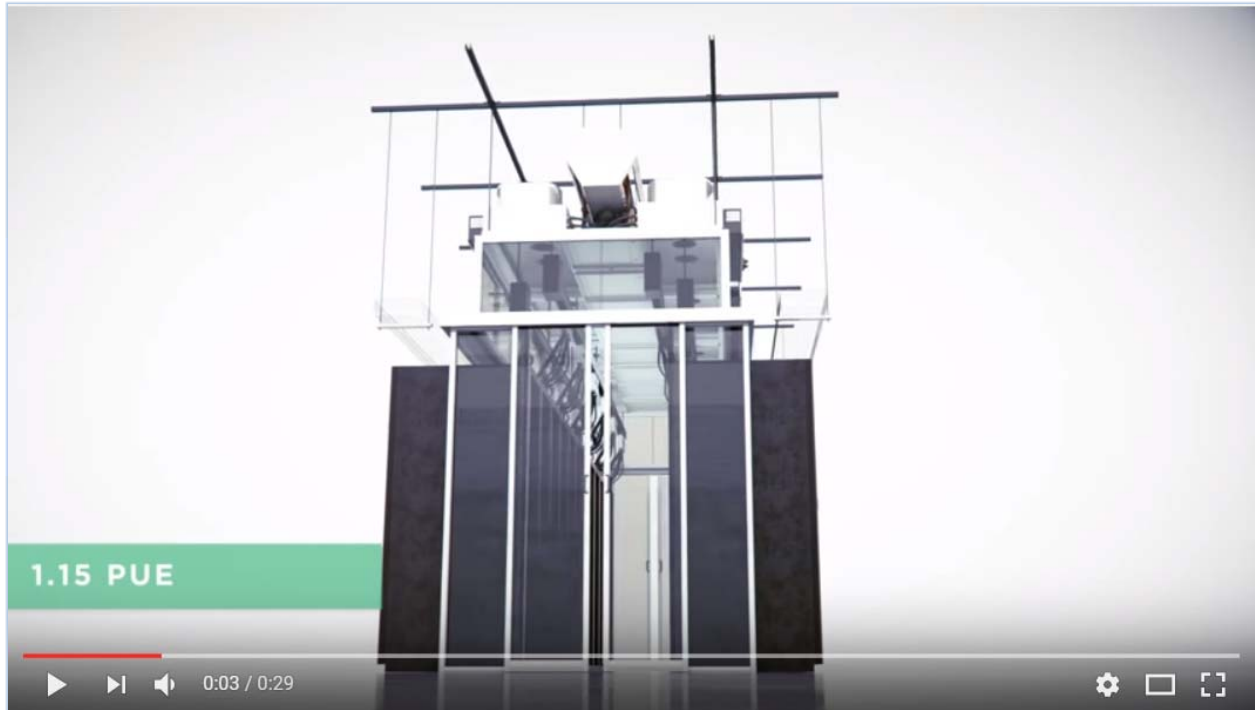
tiers is adapted to hold the electronic equipment power wires and conduits and the communication wiring; and

a second plurality of vertical support brackets disposed in a row, substantially parallel to the two rows, each second vertical support bracket being disposed on the floor at one end and assists in supporting the thermal barrier ceiling at another end, wherein the second plurality of vertical support brackets each further support portions of the cool air ductwork.

61. As shown in the pictures below, Aligned's data centers contain an apparatus with "vertical support brackets," "horizontal support brackets," "tiered ladder rack supports," a "thermal barrier ceiling" and "thermal shield" as claimed in the '389 patent:



Source: *Aligned Plano: Power and Cooling on Demand*, DataCenter Dynamics, <http://www.datacenterdynamics.com/content-tracks/colo-cloud/aligned-plano-power-and-cooling-on-demand/97039.fullarticle> (last visited Aug. 7, 2017).



Source: <https://www.youtube.com/watch?v=q2nXSUi7Ag8&feature=youtu.be&t=6> at :03 (last visited Aug. 7, 2017).

62. Aligned's data centers infringe at least one claim of the '495 patent. An example claim, claim 1, recites:

An apparatus for cooling electronic equipment contained within a floor of a building, in conjunction with a plurality of air conditioning units that each create cool air and include an exhaust fan and a cooling fan and a plurality of actuators that control a plurality of dampers associated with the plurality of air conditioning units, the apparatus comprising:

a plurality of cabinets disposed on the floor of the building for holding the electronic equipment therein, the plurality of cabinets positioned in a plurality of rows within each of a plurality of cabinet clusters so that the electronic equipment disposed within the cabinets emit heated air from the cabinets in each row of each cabinet cluster toward a central hot air area associated with each cabinet cluster;

a hot air containment chamber disposed within the building over each of the plurality of cabinet clusters that traps the heated air within the central hot air area and causes substantially all the heated air within the central hot air area to rise up within the hot air containment chamber and exit through a hot air escape opening of the associated hot air containment chamber;

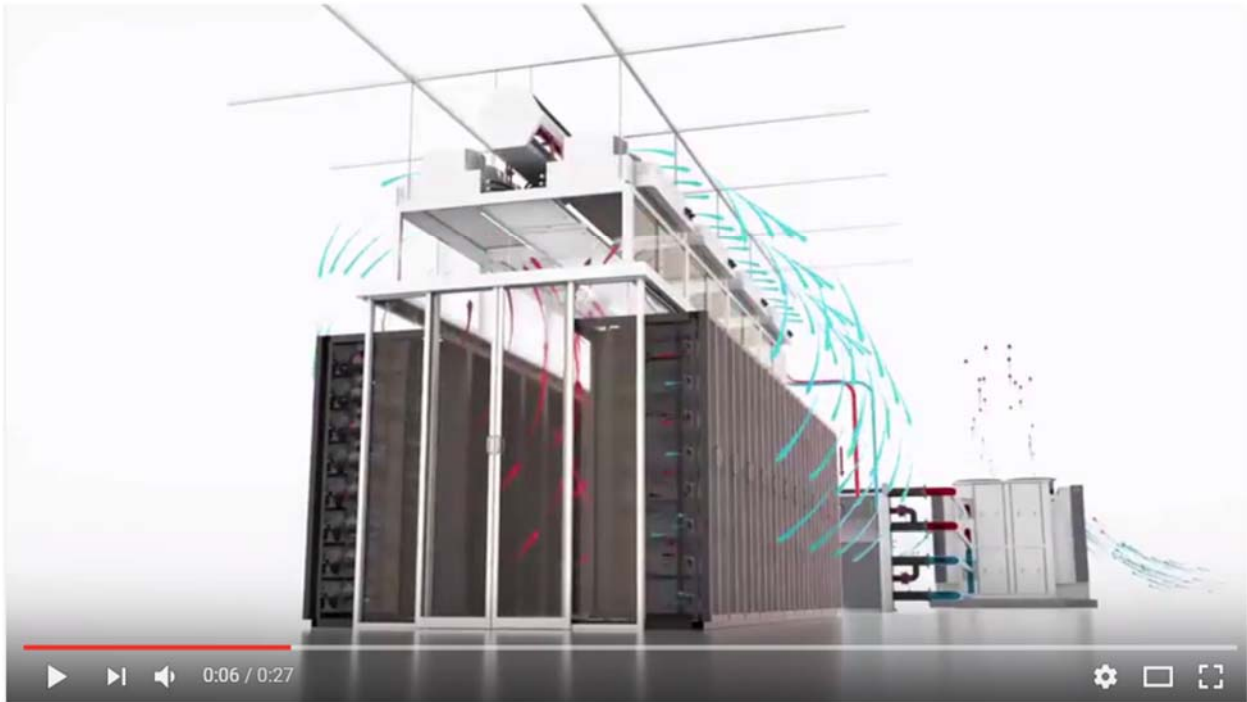
a warm air escape gap disposed within the building and disposed above each of the hot air containment chambers, the warm air escape gap collecting the heated air from each of the hot air containment chambers and feeding the heated air to the air conditioning units, the warm air escape gap being lowerly bounded by a ceiling, wherein the ceiling contains ceiling openings that each align with one of the hot air escape openings in each of the hot air containment chambers; cool air ducts disposed within the building that deliver the cool air from the plurality of air conditioning units toward a periphery of the plurality of rows of cabinets within each of the plurality of cabinet clusters; and

a control system, the control system comprising:

a plurality of temperature sensors, at least one temperature sensor located inside each of the central hot air areas associated with each cabinet cluster, at least one temperature sensor located outside each of the plurality of cabinet clusters, and at least one temperature sensor located in the warm air escape gap; a plurality of pressure differential sensors, at least one pressure differential sensor located inside each of the plurality of hot air containment chambers, at least one pressure differential sensor located outside each of the plurality of hot air containment chambers, and at least one pressure differential sensor located in the warm air escape gap; and

a computer system, the computer system receiving signals from each of the plurality of temperature sensors and each of the plurality of pressure differential sensors, and providing control signals to control the exhaust fan, the cooling fan, and the plurality of actuators in order to control the temperature of the cooled air and a pressure differential that exists between an area within the hot air containment chamber for each of the cabinet clusters and a different area outside of each of the cabinet clusters.

63. As shown in the pictures below, Aligned's data centers comprise an apparatus with "cabinets," a "hot air containment chamber," and a "warm air escape gap" as claimed in the '495 patent.



Source: <https://www.youtube.com/watch?v=2YnPQ4KmMKU> at 0:06 (last visited Aug. 7, 2017).



Source: <https://www.youtube.com/watch?v=KCaPCc6eHpk> at 1:22 (last visited Aug. 7, 2017).

64. Aligned's data centers also comprise an apparatus with a "control system" as claimed in the '495 patent with its data center infrastructure management (DCIM) software and/or Inertech's controller in conjunction with pressure differential and temperature sensors. *See, e.g.*, Exhibits I-J.
65. For example, Aligned describes its system as one that is a "responsive" cooling system that provides an environment that "dynamically adapts to IT loads."<sup>10</sup>
66. Aligned advertises its "Client Portal" for Data Center Information Management as including information related to "all of the components of your colocation environment, including footprint-level, rack-level, cooling system, and power system performance and utilization."<sup>11</sup>
67. Inertech describes its controller as follows: "When this free-cooling cycle requires assistance, Inertech's controller brings the Danfoss Turbocor compressor online to provide incremental compression." Exhibit K.

**COUNT TWO: INDIRECT INFRINGEMENT BY ALIGNED**

68. Switch incorporates by reference the preceding paragraphs as if fully set forth herein.
69. Aligned Data Centers LLC has actual knowledge of the patents-in-suit or was willfully blind to those patents.
70. On July 21, 2017, Switch wrote to Aligned Data Centers informing Aligned of the '780 and '389 patents. The '495 Patent is part of the same patent family.

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<sup>10</sup> Available at <https://www.youtube.com/watch?v=KCaPCc6eHpk> at 1:25-1:46 (last visited Aug. 7, 2017).

<sup>11</sup> *See* <https://www.aligneddatacenters.com/whats-inside/client-portal>.

- 71. Aligned Data Centers LLC indirectly infringes the patents-in-suit by inducing infringement by others, such as its customers using the data centers, by, for example, encouraging those customers to use the infringing apparatuses described above.
- 72. Aligned took the above actions intending to cause infringing acts by others.
- 73. Aligned was aware of the patents-in-suit and knew that the others' actions, if taken, would constitute infringement of the patents-in-suit. Alternatively, Aligned believed there was a high probability that others would infringe the patents-in-suit but remained willfully blind to the infringing nature of others' actions.
- 74. Aligned therefore infringes the patents-in-suit under 35 U.S.C. § 271(b).

**COUNT THREE: INDIRECT INFRINGEMENT BY MTECHNOLOGY**

- 75. Switch incorporates by reference the preceding paragraphs as if fully set forth herein.
- 76. MTechnology had actual knowledge of the patents-in-suit or was willfully blind to those patents.
- 77. MTechnology President, Stephen Fairfax, toured Switch's Las Vegas facilities once in or near May 2011 and once in or near August 2015. The purpose of these tours was to inspect the facilities on behalf of Switch's largest client.
- 78. In 2011, in connection with his inspection, Mr. Fairfax was told that there were patents issued and pending on Switch's T-SCIF design.
- 79. In 2013, Mr. Fairfax specifically praised Switch's cooling system, of which Switch's T-SCIF design is a part. Mr. Fairfax also represented that MTechnology had "no interest in building and operating data centers."
- 80. In 2015, it was reiterated to Mr. Fairfax that there were patents issued and pending on Switch's T-SCIF design.

81. In Aligned marketing materials, Mr. Fairfax acknowledges that, notwithstanding his exposure to the intricacies of Switch's innovative data center design, he, on behalf of MTechnology, nevertheless had a "seat at the table to participate" in Aligned's design process and that, in fact, Aligned had approached him at the very beginning of the process "while the paper was literally still blank."
82. By participating with Aligned in its design process for these data centers, MTechnology actively induced Aligned's infringement under 35 U.S.C. §271(b).
83. By participating in the design process, MTechnology took action that encouraged Aligned to go forward with a particular, infringing design for its data centers. As described above, making a data center pursuant to that design infringes the patents-in-suit.
84. As such, MTechnology either knew or was willfully blind to the existence of the patents-in-suit.
85. Additionally, MTechnology either knew or was willfully blind to the fact that Aligned's implementation of its data centers would infringe Switch's patents.
86. MTechnology acted intending to encourage that infringing action by Aligned.
87. Additionally, MTechnology continues to publicly promote Aligned's data centers with knowledge of Aligned's infringing data center designs, for example, via internet videos and quotes posted on Aligned's websites. By continuing to promote Aligned's data centers, MTechnology encourages the infringing use of those data centers by Aligned's customers knowing that the use of those centers would constitute infringement of the patents-in-suit or being willfully blind to that infringement.

**DEMAND FOR JURY TRIAL**

Switch hereby demands a jury for all issues so triable.



**PRAYER FOR RELIEF**

1. A judgment that Aligned Data Centers LLC has directly infringed the '780, '389, and '495 patents and that Aligned Data Centers LLC induced the infringement of the '780, '389, and '495 patents.
2. A judgment that MTechnology has induced Align Data Centers LLC's infringement of the '780, '389, and '495 patents and has induced others to infringe the '780, '389, and '495 patents by encouraging the use of Aligned Data Centers LLC's facilities.
3. A preliminary and permanent injunction preventing Defendants and their officers, directors, agents, servants, employees, attorneys, licensees, successors, and assigns, and those in active concert or participation with any of them, from directly infringing, contributorily infringing, and inducing the infringement of the '780, '389, and '495 patents;
4. A ruling that this case be found to be exceptional under 35 U.S.C. § 285, and a judgment awarding to Switch its attorneys' fees incurred in prosecuting this action;
5. A judgment and order requiring Defendants to pay Switch damages under 35 U.S.C. § 284, including enhancement and including supplemental damages for any continuing post-verdict infringement up until entry of the final judgment, with an accounting, as needed;
6. A judgment and order requiring Defendants to pay Switch the costs of this action (including all disbursements);
7. A judgment and order requiring Defendants to pay Switch pre-judgment and post-judgment interest on the damages awarded;
8. A judgment and order requiring that in the event a permanent injunction preventing future acts of infringement is not granted, that Switch be awarded an ongoing licensing fee; and Such other and further relief as the Court may deem just and proper.



DATED: August 7, 2017

Respectfully submitted,

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